

*Atty Docket: IDF 1660 (4000-04700)**Patent***AMENDMENTS TO THE CLAIMS*****Listing of Claims:***

1. (Currently Amended) A service node for coupling a client to a network having at least one server, said service node comprising:
 - a) a gateway configured for connection to a network;
 - b) a switch configured for connection to a client;
 - c) a data routing system extending from said switch to said gateway, said switch, data routing system and gateway collectively forming a path, through said service node, configured for coupling said client to said network;
 - d) a bandwidth measurement device coupled to said path gateway, said bandwidth measurement device configured for independently determining upload and/or or download data transfer rates between said client and said service node, gateway, and for distinguishing the upload or download data transfer rate between the client and the gateway from the upload or download data transfer rate between the client and the network.
2. (Original) The service node of claim 1 wherein said data routing system is comprised of a router coupled to said switch and said gateway.
3. (Canceled)
4. (Currently Amended) The service node of claim 3 claim 1 wherein said switch is an ATM edge switch.
5. (Currently Amended) The service node of claim 3 claim 1, wherein said client is a PC the service node is an internet service provider and said network is the Internet.

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6. (Currently Amended) The service node of ~~claim 3~~ claim 1 wherein said bandwidth measurement device is a server.
7. (Currently Amended) The service node of claim 6, wherein a measurement application resides on said bandwidth measurement server, said measurement application determining said upload ~~and/or or~~ download data transfer rates for said bandwidth measurement server.
8. (Original) The service node of claim 7, wherein, if determining said upload data transfer rate between said client and said service node, said measurement application determines said upload data transfer rate based upon an analysis of arriving data packets originating at said client and, if determining said download data transfer rate between said service node and said client, said measurement application generates data packets for transfer to said client.
9. (Original) The service node of claim 8, wherein said measurement application maintains an applet suitable for download to said client and wherein, if determining said upload data transfer rate between said client and said service node, said downloaded applet generates said data packets originating at said client and, if determining said download data transfer rate between said service node and said client, said downloaded applet determines said download data transfer rate based upon an analysis of said data packets generated by said measurement application upon arrival at said client.
10. (Original) The service node of claim 7, wherein a web application resides on said bandwidth measurement server, said client accessing said measurement application via said web application.
11. (Currently Amended) The service node of claim 10, wherein said bandwidth measurement server further comprises a measurement database coupled to said measurement application, said

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measurement database maintaining data collected during measurement of said upstream and/or or downstream data transfer rates.

12. (Currently Amended) An intranet for providing on-demand Internet access to subscribers, said intranet comprising:

- a) a service node; and
- b) a plurality of subscriber terminals, each one of said plurality of subscriber terminals coupled to said service node by a corresponding xDSL line;
- c) said service node comprising:
 - i. a switch coupled to each one of said plurality of xDSL lines;
 - ii. a gateway coupled to the Internet;
 - iii. a data routing system extending from said switch to said gateway, said switch data routing system and gateway collectively forming a path, through said service node, for coupling each one of said plurality of subscriber terminals to the Internet; and
 - iv. a bandwidth measurement device coupled to said path, said bandwidth measurement device configured for independently determining upload and/or or download data transfer rates between said service node and requesting ones of said plurality of subscriber terminals which access said bandwidth measurement device, and for distinguishing the upload or download data transfer rate between the client and the gateway from the upload or download data transfer rate between the client and the network.

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13. (Original) The intranet of claim 12, whercin said data routing system is comprised of a router coupled to said switch and said gateway.

14. (Original) The intranet of claim 13, wherein said bandwidth measurement device is coupled to said gateway, said requesting ones of said plurality of subscriber terminals accessing said bandwidth measurement device through said gateway.

15. (Original) The intranet of claim 14, wherein said bandwidth measurement device is further coupled to said router and wherein said intranet further comprises a service provider terminal coupled to said router, said service provider terminal accessing said bandwidth measurement device through said router.

16. (Original) The intranet of claim 15, wherein said bandwidth measurement device is a server.

17. (Currently Amended) The intranet of claim 16, wherein a measurement application resides on said bandwidth measurement server, said measurement application performing said measurements of said upload and/or or download data transfer rates for said requesting ones of said plurality of subscriber terminals.

18. (Original) The intranet of claim 17, wherein a web application resides on said bandwidth measurement server, said requesting ones of said plurality of subscriber terminals accessing said measurement application through said web application.

19. (Currently Amended) The intranet of claim 18, wherein said bandwidth measurement server further comprises a measurement database coupled to said measurement application, said measurement database maintaining data collected during measurement of said upstream and/or or downstream data transfer rates for said requesting ones of said plurality of subscriber terminals.

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20. (Original) The intranet of claim 19, wherein said measurement database is further coupled to said web application, said service provider terminal accessing said data maintained in said measurement database through said web application.

21-28. (Canceled)

29. (New) The service node of claim 1 further comprising: a baseline data transfer rate, wherein the upload or download data transfer rate between the client and the gateway is compared to the baseline data transfer rate to determine whether any problems exist between the client and the gateway.